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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,284	09/26/2003	Manabu Oku	12065-0008	6491

22902 7590 05/26/2005

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EXAMINER

YEE, DEBORAH

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,284

Applicant(s)

MANABU OKU ET AL

Examiner

Deborah Yee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9-26-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Table 2 on page 20 discloses comparative steel no. 31 having a composition containing 0.0152%* B outside the invention range yet claim 1 of the application recites 0.0005 to 0.02% B.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 10-204591 or Japanese patent 10204590 alone or in view of Japanese patent 7-145453 (Japanese patents cited by applicant in IDS dated 9-26-03).
4. Pages 2 and 3 of JP'591 and JP'590, each disclose a ferritic steel sheet for engine exhaust components having a composition with constituents whose wt% ranges overlap those recited by the claims; such overlap establishes a prima facie case of obviousness because it would be obvious to one of ordinary skill in the art to select the claimed alloy ranges from the broader disclosure of the prior art since the prior art has the same utility, see MPEP2144.05.
5. More specifically, note prior art example 17 on page 10 of JP'590 and prior art example 17 on page 10 of JP'591 that meet the claimed composition except for slightly

higher amounts of Cr, Ni or Nb. Since applicant has not demonstrated criticality (e.g. by comparative test data) for the claimed Cr range, then a composition with 11.2%Cr vs. a composition with slightly less than 11% Cr would depict a mere difference in the proportion of element without any attendant unexpected results which would not patentably distinguish claims over prior art. Same rejection applies to Ni and Nb wt% ranges. Moreover, applicant's comparative test data in Table 2 on page 20 of his specification is not valid because they are not representative of the prior art alloys. Note the minimum requirement for comparative test data is with the closest prior art alloy examples.

6. Also when calculated, the claimed equations are met or closely met. Even though prior art does not teach the equations recited by the claims, such would not be a patentable difference because it has been held that there is no invention in the discovery of a general formula if it closely covers a composition described in the prior art, see *In re Cooper et al.* 57USPQ117.

7. Pages 2 and 3 of JP'591 and JP'590, each disclose a steel containing V, Al and Ca in wt% ranges that overlap with claims 2, 3 and 5.

8. Even though JP'591 and JP'590 does not teach a ferritic steel sheet containing small amounts of Y and rare earth elements as recited by claim 4, such would not be a patentable difference. The secondary teaching, JP'453, in paragraph 33 discloses that adding small amounts of Y and rare earth metal to an analogous heat resistant steel alloy further enhances high temperature oxidation resistance. Since this property is desired and sought by JP'591 and JP'590, then it would be an obvious modification to

incorporate small amounts of Y and REM to their alloys to produce no more than the known and expected effect of such an addition. In any event, the differences between prior art and present invention would amount to no more than routine optimization of alloying constituents to achieve the desired balancing of properties.

9. Even though prior art does not teach the process limitations of cold rolling and annealing a partially or fully recrystallized hot rolled steel sheet as recited by claims 6 to 16, such would not be a patentable difference since patentability for a product-by-process claim is determined by the product per se and not the process limitations. The burden falls to the applicant to show that any process steps associated with the claimed product results in a materially different product from those of the prior art because there is nothing in the record before the examiner to reasonably conclude that applicant's product differs in kind from those obtained by the reference, see MPEP 2113.

10. In regard to claims 17 to 22, prior art teaches a steel sheet for automotive exhaust components.

11. Claims 1 to 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 10-147848 in view of Japanese patent 10-204591 or Japanese patent 10204590 and further in view of Japanese patent 7-145453.

12. JP'848 steel sheet examples 1, 8 and 9 on page 4 have compositions which meet the recited claims but fail to include small amounts of B, Ca, Y, V and REM. Note, however, that the secondary teaching, JP'453, in paragraph 33 discloses adding small amounts of Y and rare earth metal to an analogous heat resistant steel alloy enhances high temperature oxidation resistance. Moreover, JP'591 in paragraphs 47 and 66-67

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and JP'590 in paragraphs 59 and 64-65, each teach the addition of small amounts of Ca, V and B enhances heat-resistant properties . Since heat resistant properties are desired and sought by JP'848, then it would be an obvious modification to incorporate small amounts of Ca, B, V and Y and REM to their alloys to produce no more than the known and expected effect of such an addition. In any event, the differences between prior art and present invention would amount to no more than routine optimization of alloying constituents to achieve the desired balancing of properties which is productive of no new and unexpected results.

13. Even though prior art does not teach the process limitations of cold rolling and annealing a partially or a fully recrystallized hot rolled steel sheet as recited by claims 6 to 16, such would not be a patentable difference since patentability for a product-by-process claim is determined by the product per se and not the process limitations. The burden falls to the applicant to show that any process steps associated with the claimed product results in a materially different product from those of the prior art because there is nothing in the record before the examiner to reasonably conclude that applicant's product differs in kind from those obtained by the reference, see MPEP 2113.

14. In regard to claims 17 to 22, prior art teaches a steel sheet for automotive exhaust components.


15. The unapplied art, Kohno et al., has been cited to further depict the state of the art in ferritic steel sheets for automotive exhaust components produced with recrystallized grains to further enhance high temperature fatigue resistance and surface roughening resistance.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Deborah Yee
Primary Examiner
Art Unit 1742

dy